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Available on loan from the CIA Library is a report prepared by the World Medical Association from information received from various national medical associations concerning current trends in the standards of medical education. The report includes information relative to qualifications; organization and number of medical schools in each country; selection of applicants; curriculum; pre-clinical and clinical training; internship and ethical conduct. Participating countries include: Australia, Austria, Belgium, Bulgaria, Canada, China, Chile, Cuba, Czechoslovakia, Denmark, Erie, France, Greece, Hungary, Iceland, India, Italy, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, UK, and US.

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2 East 103rd Street, New York 29, New York

## R E P O R T

on

## STANDARDS OF MEDICAL EDUCATION

(Confidential)

In an effort to study the current trend in the standards of medical education a questionnaire was prepared by the World Medical Association and sent to the various national medical associations comprising its membership. The questionnaire included questions relative to qualifications; organization and number of medical schools in each country; selection of applicants; general scheme of curriculum; preclinical training; clinical training; examinations; internship or practice under supervision; ethical conduct and student organizations. Twenty-six (26) national medical associations returned answers to this questionnaire.

## QUALIFICATIONS

It would seem from the answers received from the national medical associations that medical degrees and diplomas are awarded in the Netherlands and Spain by the State or Ministry of Education. Luxembourg has no provision for awarding degrees or diplomas as it has no medical school, and in the remaining twenty-three (23) countries degrees or diplomas are awarded by the universities or medical schools. In Belgium, Eire, France and Great Britain, countries having universities or medical schools awarding degrees, diplomas or degrees are also awarded by either a licensing corporation or through the Ministry of Education.

All the countries except Australia have official enactments or regulations governing the standards of medical qualification and in Australia, one State, Queensland, has official enactments.

## MEDICAL SCHOOLS

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Numbers

The replies from the twenty-six (26) countries cover a total of 288 universities and medical schools and 18 preparatory or pre-medical schools. Norway reported that at present their accommodations and number are inadequate, but will be adequate when the school, now under construction, is ready for operation; seven (7) national medical associations, Belgium, Czechoslovakia, Hungary, Iceland, Netherlands, Spain and Switzerland report adequate number of schools and accommodations in schools. In the United States the American Medical Association reports that while the number of schools and accommodations are reasonably adequate there is room for a few additional schools, which are in the process of establishment. Fourteen (14) associations felt that either the number of schools or the accommodations and teaching staff are inadequate (see Table II, page 3-4). Three (3) associations (Cuba, France and Luxembourg) did not answer this question.

Relation-  
ship to  
Univer-  
sities

In all except one country (India) the medical schools constitute faculties of universities. In India they are provided largely by the state although some are provided by voluntary bodies. Great Britain and the United States report a few independent or private schools in addition to those associated with universities, and ten (10) associations (China, Cuba, Denmark, Eire, France, Iceland, Netherlands, Spain, Sweden and Switzerland) report state or local aid to medical schools.

Teaching Hospitals (Eire and France) report that medical schools are attached to or associated with hospitals specially organized for teaching purposes.

Segregation

In all the countries from which replies were received the majority of medical schools are open to both men and women. India has three (3) schools for women only; Chile has one (1) school for men and the United States has three (3) segregated schools.

## ENTRY TO MEDICAL COURSES

Selection

In the selection of applicants for admission to the medical course, four (4) national medical associations (Belgium, Eire, France and Netherlands) report there is no specific selection except in certain schools in Belgium and one (1) school in Eire in which written examinations are used. Six (6) national medical associations (Canada, China, Czechoslovakia, Great Britain, India and the United States) report that interviews are used in the selection of students and Chile reports the interview as a method of selection in use in one (1) school; three (3) associations (Canada, India and the United States) report the use of intelligence or aptitude tests while Great Britain reports their use experimentally, and Cuba, that they are at present being considered. Fifteen (15) national medical associations report the use of written, oral or both written and oral examinations as a method of selection of applicants; Belgium reports that they are used in certain universities; Fifteen (15) associations report the review of class records of previous school work as a method of selection. (See Table III pages 5-7). Only one (1) association (Canada) reports the use of all four methods of selection of applicants; the associations in China, Czechoslovakia, Great Britain, India and the United States report use of three (3) of the four methods; six (6) (Bulgaria, Chile, Denmark, Hungary, New Zealand and Switzerland) use two of the methods, and nine (9) associations report only one method of selection of applicants in their country. (For specific details see Table III pages 5-7).

Age of Entry

The usual age of entry into medical school varies from sixteen (16) years in India and Spain to twenty-two (22) years in the United States. The average median age for all the schools in the countries submitting reports is nineteen (19) years. (Table III pages 5-7, column 6).

Criticisms of Selection

Austria, India, Norway and Sweden report that the medical profession in their countries does not regard as satisfactory the present standards and arrangements for the selection and admission of students to schools of medicine. Fourteen (14) national medical associations reported that the medical profession is satisfied with the present standards and arrangements, although some of these suggested general lines of improvement and criticism. The suggestions and criticisms varied widely. For example, certain national medical associations feel that methods of selection of applicants can be improved through a wider use of selective and comprehensive examinations, while another suggests that too much time is spent in preparation for examination. Because of the wide variance of criticisms, it would be impossible to summarize without repeating large portions of the tabular report. (For criticisms on Standards and Arrangements for the admission of students, see Table III, column 8, pages 5-7.)

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## GENERAL SCHEME OF CURRICULUM

The national medical association in Austria, Czechoslovakia, Hungary and India report that the medical schools do not frame their own curricula. Eire and New Zealand did not answer this question. The remaining nineteen (19) national medical associations report that each medical school does frame its own curriculum.

Framing  
of Cur-  
riculum

In Cuba, France, Greece and the Netherlands, there is no official or other organization that acts as a co-ordinating body either by laying down requirements or making recommendations in relation to the curriculum. In Austria, Czechoslovakia, Iceland, Italy and Spain requirements are set forth by the government or by legal enactments. The Ministry of Education or Social Affairs is the co-ordinating body in Bulgaria, China, Denmark, Hungary and Norway. A Medical Council acts in this capacity in Australia, India, New Zealand and the United States. In Canada, Eire and Great Britain coordination is achieved through the Medical Register or Licensing Agency. Coordination in Belgium is accomplished through a commission of the faculty and an official council working with the Minister of Public Education; in Chile, by the University of Chile, before whose faculty the curriculum of the other two universities is formed; and in Sweden, by the Chancellor.

Length  
of Cur-  
riculum

The length of the medical courses vary from four (4) to eight (8) years. The Indian Medical Association reports four (4) years in medical schools and five (5) years in medical colleges. Five (5) years are reported by Austria, Chile and Hungary; Czechoslovakia reports five and one-half (5½) years. The medical course is six (6) years in length in Australia, Bulgaria, Eire, France, Great Britain, Greece, Italy, Luxembourg, New Zealand, and six and one-half (6½) years in Switzerland; seven (7) years in Belgium, Chile, Cuba, Iceland, Norway and Spain; seven and one-half (7½) years in the Netherlands; Denmark reports eight and one-third (8⅓) years duration for their medical course. In Canada, Sweden and the United States the medical course is four (4) to five (5) years in length, but must be preceded by pre-medical or medical science education of three (3) to four (4) years.

Content  
of  
Curricu-  
lum

It is difficult to compare the general outline of the curricula according to the course of study for a specific year in medical school, as in the schools having six (6) to eight (8) years in the course the first two (2) years are almost entirely medical science courses and pre-medical studies. These courses correspond to the course content offered in pre-medical schools in those countries having four (4) to five (5) years in medical school preceded by specific educational requirements. The final two (2) to three (3) years in medical schools in the majority of countries reporting are devoted to clinical bedside instruction and correlated didactic lectures (although the degree of this correlation of lectures and practical application seems to vary greatly) in medicine, surgery, podiatrics, obstetrics and the specialties. (See pages 10-18 for specific information.)

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## PRE-CLINICAL TRAINING

Nine (9) national medical associations (Belgium, Canada, China, Cuba, France, Luxembourg, New Zealand, Sweden and the United States) report that medical students are expected to have had a special training in physics, chemistry and biology before they begin the course in the medical school. In Canada and the United States this is provided in the pre-medical course. In Australia and Great Britain it varies, some students taking the examination before they enter medical schools and others studying these subjects in medical school. The other fifteen (15) national medical associations report that students are not expected to have any special training in these courses before admission to medical school. In ten (10) countries (Chile, China, Cuba, Greece, Iceland, India, Italy, New Zealand, Sweden and the United States) these subjects are taught as basic sciences without special reference to medicine. In the remaining fifteen (15) countries, biology, chemistry and physics are taught with special reference to medicine, although Australia reports that this varies.

Biology,  
Chemistry  
and  
Physics

Two (2) national medical associations (Denmark and Sweden) report that the medical profession does not regard as satisfactory the present teaching of biology, chemistry and physics on the basis that in Denmark the courses are too extensive, especially the physics course; in Sweden that the courses are too elementary and there is not enough practical application. Five (5) countries (Canada, Great Britain, India, Luxembourg and Switzerland) report a division of opinion. Their cumulative criticisms varying widely, being that the courses are: 1) too time consuming with a lack of application; 2) not an adequate basis of scientific method; 3) is not accorded a sufficiently high status; 4) insufficiently coordinated; 5) should be taught before admission to medical school; 6) should be taught as basic general science and 7) should be applied directly to medicine. One (1) association (Italy) reports that the medical profession is satisfied in respect to the theory offered in these courses but feels that the practice sections are too large and the facilities too limited for adequate student preparation. Fifteen (15) associations report that the medical profession is satisfied with the teaching of the courses in biology, chemistry and physics, although Belgium reports a few who feel these courses are excessively detailed and the Netherlands which feel more emphasis might be placed on medical applications. (For details see Table V pages 19-22.)

From the reports submitted by the national medical associations, it would seem that the courses in anatomy and physiology offered by the medical school are in many respects similar. (See page 19-21, column 2-3.) Normal psychology, however varies from not being offered at all, either as a prerequisite or a medical school course, to varieties of recommended or required courses for university degrees.

Anatomy,  
Physiology  
and  
Psychology

In some cases schools offer a special course in normal psychology for medical students or combine it with the course in neurology and psychiatry. (See pages 23-26, column 4.)

All national medical associations report that the majority of teachers in anatomy and physiology are medically qualified. The psychology course in Bulgaria, Canada, Denmark, Iceland and the United States may be taught by persons holding the degree of Doctor of Philosophy.

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(Continued)  
Anatomy,  
Physiology and  
Psychology

Only four (4) national medical associations (Denmark, Greece, India and Sweden) report that the teaching of anatomy, physiology and psychology are not satisfactory in the view of the medical profession. A cumulative summary of their criticisms include: 1) lack of facilities; 2) excessive lectures; 3) too much detail; 4) inadequate correlation; 5) lack of clinical orientation; 6) inadequate current literature, and 7) pre-clinical and clinical experience too widely separated. In one (1) country (Italy) the medical profession feels that the theory in these courses is adequate but that the practice sections are too large and the facilities too limited. Norway reports that the normal anatomy course is too detailed, but on the whole, seventeen (17) countries reported that the courses in anatomy, physiology and psychology (where a psychology course is offered) met with the approval of the medical profession.

#### CLINICAL TRAINING

General  
Features

On the whole the general features and organization of the teaching of clinical subjects, especially with reference to the general approach to clinical medicine is similar in all countries. The students have didactic lectures and demonstrations; group instruction at the patients' bedside; and attend clinics or are assigned to various hospital services where, under supervision they have opportunities in diagnosis, prognosis and treatment. (See Table VI, pages 27-29, column 2.) In eight (8) countries (Austria, Canada, Chile, Cuba, Denmark, Italy, Norway and Sweden) the student does not hold an appointment in a teaching hospital as part of his training. In ten (10) countries (Australia, Bulgaria, China, Eire, Great Britain, India, New Zealand, Spain, Switzerland and the United States) the students act as clinical clerks or dressers, but in most of these countries they have no official appointment in such a capacity. The remaining seven (7) countries did not answer this question. (See Table VI pages 27-29, column 4).

Coordination

Australia, Denmark, Great Britain, Norway and Sweden report that the degree of coordination in the teaching and of cooperation among the teachers is deficient. Switzerland reports that it is good between professors and hospital doctors, but limited within the university. China, France and Greece did not answer this question, and the remaining sixteen (16) associations report satisfactory or increasingly improving coordination and cooperation. (See Table VI pages 27-29, column 3.)

Criticisms of  
Special  
Phases

According to the medical associations in Belgium, Bulgaria, Cuba, Eire, Hungary and New Zealand, sufficient emphasis is laid on: 1) the prevention of illness; 2) the mental aspects of illness; 3) the social, economic, occupational and other environmental factors in illness, and 4) the individuality of the patient, in the medical schools in these countries. Australia (with the exception of the University of Queensland) Denmark, Great Britain, Greece and Italy report that the emphasis is insufficient in all four phases. Iceland, Norway and the United States report that the emphasis upon these four phases has been insufficient, but that the present trend is producing more adequate emphasis. The degree of sufficiency of the emphasis varies in the other countries. (For details see Table VI pages 30-31, columns 2-3-4-5.)

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Status  
of  
Teachers

In Belgium, Canada, China, Cuba, Great Britain, India, Italy and Sweden the teachers are of both consultant and specialist status. In Chile they are neither consultant nor specialist status. In Bulgaria, Hungary, Netherlands and New Zealand they are of consultant status, and in the remaining nine (9) countries they are specialists.

Belgium, China, and Iceland report that the medical schools have both full-time and part-time instructors. In Australia, Austria, Eire, India and Switzerland the instructors in theory are full-time, those in the hospitals, part-time. In Canada and Sweden, hospital teachers are full-time and theory instructors are part-time. In Bulgaria, Czechoslovakia, Netherlands and, with the exception of the professor in surgery, in New Zealand, teachers hold full-time appointments. In Great Britain all teachers are part-time except for a small proportion and in the United States most schools have a full-time nucleus and a few schools have a majority of full-time instructors. France did not answer this question, and the remaining eight (8) countries report all or a majority of part-time instructors.

General  
Practitioners  
as  
Teachers

The national medical associations of Australia, Chile, China, Greece, Hungary, Italy, New Zealand, Spain and United States report that general practitioners do take part in the teaching of students. In most countries they act as assistant instructors in courses, or supervise practical experience in the hospitals. Denmark and the United States report the planning and experimenting in a course in problems and opportunities of general practice which is taught by a general practitioner. All other countries reported that general practitioners do not take part in the teaching, except in very few instances.

Criticisms of  
Clinical  
Training

Austria, Belgium, Bulgaria, China, France, Hungary, India, in certain instances, New Zealand, Spain and the United States report that the system of clinical training is satisfactory in the view of the medical profession. The general line of criticism from the national medical associations of the other countries is widely divergent. Most frequently mentioned criticisms include: 1) too few teachers; 2) excessive emphasis on specialization with underemphasis on commoner conditions; 3) lack of practical experience with patients; 4) too little coordination of theory and experience, and 5) too little bedside teaching. (For complete list of criticisms see Table VI pages 32-34, column 4.)

## EXAMINATIONS

From the reports submitted by the national medical associations, it would seem that in general the scheme of examinations in medical schools is similar. The majority of schools have oral, written and practical examinations over the courses which the student has completed. In some countries these examinations must be completed before the student may go on to other courses; in others the student may take the examination at some later date. The specific examination schedule varies so widely from country to country that summarization is difficult. (For details see Table VII pages 35-39, column 2.)



Degree of Coordination Separate examinations are set in each clinical subject in all the countries except Greece. In Canada all are separate except pathology, anatomy and radiology which are coordinated in clinical courses. Coordination in these examinations is reported lacking in Austria, Cuba, Greece, Italy, Spain and the United States and limited in Denmark and Great Britain. Chile has coordination in medicine and surgery. Other countries report coordination in the examinations in clinical subjects.

Examining Authorities Examinations are conducted by external examiners in Great Britain and occasionally in Canada; internal examiners associated with external examiners in Denmark, Eire, Iceland, India, Luxembourg, New Zealand, Norway and Switzerland; by both internal examiners, and the latter associated with external examiners, in Canada, Czechoslovakia, Italy and the Netherlands. Australia reports examinations by internal examiners associated with external examiners in Melbourne and internal examiners in Adelaide, Queensland and Sydney. The remaining eleven (11) countries report examinations conducted by internal examiners.

Class Records In Denmark, Great Britain, Iceland, Italy, Luxembourg, Netherlands and Switzerland class records are not taken into account. In Canada, Eire and India they are occasionally considered. Austria, Belgium, Bulgaria, Norway and Spain did not answer this question. In the remaining eleven (11) countries class records are taken into account.

Criticisms of Examinations Great Britain reports that the system of medical examinations is not satisfactory in the view of the medical profession and, Sweden reports it as not being entirely satisfactory. The general line of criticism is: 1) absence of coordination; 2) examinations held too frequently during the clinical years; 3) examinations rely too much on memory work and do not adequately test understanding of subject and ability to deal with practical problems, and 4) in Sweden, student may take examination in one course during a period when he is attending another class. Italy and Luxembourg did not answer this question specifically. The remaining twenty-two (22) countries report that the system is satisfactory to the medical profession, although Switzerland suggests it would also be desirable to evaluate the personality of each candidate. (See Table VII pages 35-39, column 9-10.)

#### INTERNSHIP OR PRACTICE UNDER SUPERVISION

In sixteen (16) countries the scheme of medical education provides, as an integral part of the student's training, for a period of practice under supervision. This period varies from three and one-half months in Sweden to five years in France. Six months, and one year are the most frequently listed periods. During this time the student has supervised experience in varying aspects of hospital and clinic work with patients, and in some countries may be assigned the title of House Surgeon, Co-assistant or Intern. Canada and the United States report that they each have six schools requiring a year of this experience and India reports such experience in a few medical colleges. In Czechoslovakia there is no such experience offered in the curriculum of the schools, but the graduate is required by law to spend two years in a hospital before becoming an independent practitioner.



## Internship or Practice under Supervision (Continued)

Australia, Austria, Cuba, Eire, Great Britain and Norway have no such scheme in their medical schools.

In Australia, Czechoslovakia, Greece, three schools in Canada, and twenty-five states in the United States, the internship or practice under supervision is taken after registration or the conferment of a license to practice. In China, Denmark, Iceland, India, Italy and Luxembourg this form of practice is taken after the qualifying examination, but before registration or the conferment of a license to practice. In Austria, Belgium, Bulgaria, six schools in Canada, Chile, Cuba, France, Greece, Hungary, Spain, Sweden, Switzerland, and 23 states in the United States, the District of Columbia, Alaska, Hawaii, Porto Rico and the Canal Zone of the United States, the internship is taken before the final qualifying examination. (See Table VIII pages 40-45, column 5-6-7.)

Italy is the only country in which the internship is taken after the qualifying examination, but before registration or the conferment of a license to practice, and in which another examination (the state examination) is set at the end of the period of practice under supervision. (See Table VIII pages 40-45, column 8.)

Remuneration of Students Students are paid a remuneration during the period of practice under supervision in Bulgaria, Canada, China, Cuba, Denmark, France, Greece, Iceland, New Zealand and the United States. Only Iceland reports this remuneration as being adequate. In the other countries it is a very small stipend and is payable in certain countries only when the student assumes extra duties. Australia, Czechoslovakia, Eire, Great Britain and Norway do not offer an integrated practice period. In the remaining countries no remuneration is received by the student. However, students receive board and room during this period in Hungary, Luxembourg, and Switzerland. (See Table VIII pages 40-45, column 9.)

Legal Position of Student The legal position of the student during the period of internship or practice under supervision is that of a student, with the hospital, the superintendent of the hospital or the chief of staff being legally and professionally responsible for the student's practice. This is true of all countries reporting except Denmark, where the student must have a doctor's license for subordinate appointments, and a few states of the United States which require a certificate to practice within the hospital. (See Table VIII pages 40-45, column 10.)

Criticism of Internships The arrangements for internship or practice under supervision are regarded as generally satisfactory by the national medical associations of fifteen (15) countries. Countries having no plan for practice under supervision, that is, Australia, Austria, Eire, Great Britain and Norway express a need for this type of experience as an integral part of the medical school curriculum, and the majority of them are working on plans to incorporate this experience into the curriculum. Belgium, India, Italy and Hungary express a need for more supervision of this experience in order to make it generally satisfactory, and in the case of India, the national medical association feels that it should be extended to all schools. Greece and Luxembourg did not answer this question. (See Table VIII pages 40-45, column 11-12.)

## ETHICAL CONDUCT

On graduation or on receiving his license to practice, the student in Australia, Belgium, China, Eire, India, Italy, Luxembourg, New Zealand and Sweden do not give any formal promise or undertaking as regards his future conduct. In the remaining seventeen (17) countries students, either on receiving their doctor's degree or at the conferment of their license to practice, make a vow or sign a written promise. The majority of these vows and promises are modifications or modernizations of the Hippocratic Oath. In France the student also takes the solemn oath of the World Medical Association.

## STUDENT ORGANIZATION

In Australia, Austria, China, India, Italy, Luxembourg and the Netherlands there is no national organization of medical students. The national medical associations in Austria, India, Italy and Luxembourg feel that such an organization would be desirable; the other three (3) associations, that it is unnecessary.

In Canada, Czechoslovakia, Cuba, Eire, Great Britain, Hungary, Iceland, Spain, Sweden and Switzerland there is an organized relationship and contacts between the national medical student organization and the national medical association. This contact varies widely, a brief compilation being: 1) student organization as an affiliated society of the national medical association (Canada) or student members on special national association committees (Eire and Great Britain); 2) conclude employment agreements for medical students engaged as assistants to district medical officers; 3) providing the Journal and answering professional questions (Switzerland); 4) a combination of shared scientific and social contacts, in the remaining countries. (See Table X pages 47-51, column 3.)

The major relationship and contact are between the national medical association and medical students generally. Belgium, Bulgaria, Canada, Czechoslovakia, Cuba, Eire, France, Great Britain, Hungary, Spain, Switzerland and the United States report contacts at this level. Those relationships vary widely, a brief compilation being: 1) official Journal and booklets to students at special rates; 2) special student section in Journal; 3) secretariat assistance and meeting rooms; 4) special committee on medical student relationships; 5) prizes for essays; 6) financial aid, and 7) scientific, cultural and social contacts. (See Table X pages 47-51, column 4.)

Only Belgium, Great Britain, Hungary and India report organized relationship between local medical faculties and local medical student groups. (See Table X pages 47-51, column 5.)

The national medical associations of Australia, Iceland and the Netherlands do not think closer contact between medical organizations and medical student organizations is desirable. Canada and Cuba report that their present contact is satisfactory. The other national medical associations feel that this relationship is desirable and in many cases that it should be further developed or at least continued as it fosters a friendly contact which is mutually beneficial. (See Table X pages 47-51, column 6.)

I Qualifications

	Agency or Institution awarding medical degrees and diplomas	Are standards governed by official regulations?
Australia	Universities	Only in Queensland
Austria	Universities	Yes
Belgium	University or Central Committee of Professors named by the Minister of Public Education.	Yes
Bulgaria	Universities	Yes
Canada	Universities	Yes
Chile	University	University Statutes and By-Laws of Education.
China	Medical Schools	Yes
Cuba	University of Havana.	By faculty of University of Havana.
Czechoslovakia	University, Faculty of Medicine	Yes
Denmark	University	Yes
Eire	1. Universities 2. Royal College of Surgeons of Ireland 3. Apothecaries Hall of Ireland.	Yes
France	University for university diploma. Ministry of National Education for state diploma.	Yes
Great Britain	1. Universities - degree 2. Licensing Corporation - diploma.	Yes, the law provides that the standards of proficiency required at qualifying examinations shall be such as sufficiently to guarantee possession of the knowledge and skill requisite for the efficient practice of medicine, surgery and midwifery; and it shall be the duty of the general medical council to secure maintenance of such standards of efficiency.
Greece	Universities	Yes
Hungary	Universities	Yes
Iceland	University	Yes
India	1. Universities 2. State Medical Faculties in some Provinces. Medical Examining Boards in some Provinces. College of Physicians and Surgeons of Bombay grant Licentiate's diploma, not recognized by Medical Council of India, but by the Provincial Medical Councils.	Yes

## I Qualifications (Continued)

	(1)	(2)
✓ Italy	Universities	Yes
Luxembourg	No medical school in country.	Must pass examination before a committee of Medical Specialists.
Netherlands	State	Yes
New Zealand	University	Yes
Norway	University	Yes
Spain	Ministry of National Education.	Yes
Sweden	Medical Schools	Yes
Switzerland	Medical Schools	Yes
United States	Universities and Medical Schools	Yes

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	Number of medical schools	Adequacy of number	Medical school as faculty of University (if separate, who provides it?)	Are schools attached to or associated with hospitals organized for teaching purposes?	Co-education or segregated students?
Australia	4	No	Yes	Yes	Co-education
Austria	3	No	Yes	Yes	Co-education
Belgium	4	Yes	Yes	Yes	Co-education
Bulgaria	2	No	Yes	Yes	Co-education
Canada	9	No	Yes	Yes	Co-education
Chile	3	No	Yes	Yes	Co-education, except one for men only.
China	60	No	Yes - some provided by state.	Yes	Co-education
Cuba	1	-	Yes, sometimes provided by state, local authority or voluntary group.	Yes, a university hospital and other special hospitals.	Co-education.
Czechoslovakia	7	Yes	Yes	Yes	Co-education
Denmark	2	No	Yes, provided by state.	Yes	Co-education
Eire	6	No	Yes, for university schools others provided by state.	No	Co-education
France	3 full courses, 11 preparatory schools		Yes, state created.	No	Co-education
Great Britain	31	Number of schools is adequate. Need more accommodations and teaching staff in each	Yes, except one or two extra mural private establishments in Scotland.	Yes	Co-education
Greece	2	No	Yes	Yes	Co-education
Hungary	4	Yes	Yes	Yes	Co-education
Iceland	1	Yes	Yes, provided by state	Yes	Co-education
India	20 Medical colleges, 12 Medical schools	No	Largely state, 4 voluntary with state and local help.	Yes	Co-education in most, 3 for women.

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## II Medical Schools (Continued)

	(1)	(2)	(3)	(4)	(5)
V Italy	19	No.	Yes	Yes	Co-education
Luxembourg	NO	MEDICAL	SCHOOLS.		
Nether-lands	4	Yes	Yes, 3 state, 1 local.	Yes	Co-education
New Zea-land	1	No	Yes	Yes	Co-education
Norway	1 plus 1 being built.	No Yes	Yes	Yes	Co-education
Spain	10	Yes	Yes, state	Yes	Co-education
Sweden	3	No	Yes, 2. State 1	Yes	Co-education
Switzer-land	5	Yes for Swiss. No for foreign	Yes, state	Yes	Co-education
United States	71 plus 7 schools of basic medical sciences.	Reason-ably adequate but probably room for a few additional schools	Yes, 71. 11 are independent.	Yes	Co-education, except in 3 schools.

	Method of selection of applicants				Usual age of entry?	Does the profession regard as satisfactory the present standards and arrangements for the selection and admission of students for training? If not, what is the general line of criticism?	
	Interview?	Examination written or oral?	Intelligence or aptitude tests?	Review of class records?		Criticisms	
Australia		Yes			17-18 years	Yes	Fitness should be determined by; 1. Competition exams. 2. Interview with faculty committee.
Austria		Yes			19 years	No	Investigation being made to reduce number of applicants.
Belgium		Certain universities			18 years		Believe all schools should use an entrance examination.
Bulgaria		Yes Science and Literature.		Yes	19 years	Yes	
Canada	Yes	Yes	Yes	Yes	Average 19 years. 24 to 26 years for Veterans.		Overemphasis on previous academic standing. Need for undergraduate scholarships.
Chile	In 1 school	In all schools	No	Yes	17-19 years	Yes	Except for limited space, which limits number of students accepted.
China	Yes	Yes written and oral.		Yes	18-20 years	Yes	
Cuba		Object of consideration.	Object of consideration.	Must have B. S. degree	17 years.	Yes	Adequate but not perfect, therefore, the consideration of selective examinations is under way.
Czechoslovakia.	Yes, for general capability	Oral in political ideology.		Yes	18-20 years	Yes	
Denmark	No	Yes, written and oral	No	Yes	18 years		Selection based upon intelligence tests and ethical qualifications considered desirable by many.



	Method of selection of applicants				(5)	(6) Criticism
	(1)	(2)	(3)	(4)		
Eire	No	No except for written examination to Royal College of Surgeons	No	No	17½ - 18 years	Under investigation by government committee with large medical representation.
France	No	No	No		19 years	
Great Britain	Yes	Yes	Used experimentally		17-18 years	1. General level of education is not sufficiently high. 2. Specialization is introduced too early in the basic medical sciences of physics and chemistry. 3. Need improved methods of selection.
	Before a student is accepted for a medical course he must have passed two examinations, the first a preliminary examination in general education and an additional examination in physics and chemistry, conducted or recognized by one of the licensing bodies. Selection of students has to be made because the demand for places in medical schools exceeds the number available. A considerable number of students enter by virtue of winning scholarships.					
Greece		Yes, written.			18-20 years.	Yes
Hungary		Yes		Yes	18 years	Competition examinations are being extended and improved.
Iceland	No	No	No	Yes	18-22 years.	Yes
India	Yes	Yes, one or two institutions.	Yes		15-17 years.	No Selection based on community or religious persuasion. Profession desires it based on examination, intelligence tests and interviews with committee composed largely of doctors.
Italy				Yes	18-19 years.	Large number of applicants with insufficient preparation would make limited desirable.

	Methods of selection of applicants				(5)	(6)	
	(1)	(2)	(3)	(4)		Criticisms	
Luxembourg	NO	MEDICAL	SCHOOL		19 years	Yes	Should require a physical examination.
Netherlands	No	No except secondary schools	No	No	18-20 years	Yes	
New Zealand	No	Yes	No	Yes	18 years	Yes	
Norway		Widely discussed but not yet issued		Yes	19 years	No	Difficult to find better arrangements.
Spain				Yes	16 years	Yes	
Sweden		Yes			18-20 years	No	Too much time spent supplementing the student examination.
Switzerland	No	Yes, if the certificate of maturity is lacking.	No	Yes	19 years	Yes	
United States	Yes	No	Yes	Yes	20-30 years. 22 years average.	Yes	

	Length of medical training excluding internship?	Does Medical school frame own curriculum?	Official or other organization making recommendations or requirements as to curriculum?
Australia	6 years	Yes	Regard is had to the standards laid down by the General Medical Council of Medical Education and Registration of Great Britain and Ireland.
Austria	5 years	No	Regulated by law.
Belgium	7 years; at least 3 years of natural science or pre-medicine, 4 years Doctorate candidate	Yes	Yes, a commission of faculty and an official council working with the Minister of Public Education.
Bulgaria	6 years of medicine 5 years of study 1 year under supervision.	Yes	Supervised and coordinated by Minister of Public Education.
Canada	4 <sup>3</sup> / <sub>4</sub> to 5 years. Some require B.A. or B.S. degree before medical school	Yes	Licensing agency coordinates.
Chile	7 years	Yes	Yes, the University of Chile, before whose faculty the examinations of the other two are formed.
China	5 years	Yes	Ministry of Education.
Cuba	7 years	Yes	University of Havana.
Czechoslovakia	5 <sup>1</sup> / <sub>2</sub> years	No	Government
Denmark	7 year minimal. 8.3 year average	Yes	Ministry of Education sets requirements.
Ireland	6 years		Irish Medical Registration Council with statutory authority.
France	6 years	Yes	No, the head professors and assistants plan the program.
Great Britain	5-6 years. Usually 6 years.	Yes	The General Medical Council, a statutory body charged with the keeping of medical register and maintenance of high standards of medical education makes recommendations from time to time to the medical schools on the broad outline and content of subjects which should be included as a minimum in the medical course. These recommendations are not binding on the medical schools, but a school that reduces its standards below this minimum would find itself in difficulty because its students would fail the examinations at the standard required by the

General Medical Council as a  
medical Register.

	(1)	(2)	(3)
Greece	6 years	Yes	None
Hungary	5 years (10 semesters)	No	Minister of Culture and Education after consultation with the faculties concerned and approved by the Head of the State.
Iceland	7 years	Yes	Ratified by government.
India	5 years in medical college. 4 years in medical schools.	No, medical college by university. Medical school by state faculties or medical examining boards.	Yes - Universities by Medical Council of India. Medical schools by Medical Board of Studies.
Italy	6 years	Yes	State law.
Luxembourg	6 years	Students study in Belgium, France or Switzerland most frequently, since the war.	
Netherlands	7½ years	Yes	No
New Zealand	6 years	Not applicable	General Medical Council of the United Kingdom.
Norway	6-7 years	Yes	Ministry of Social Affairs
Spain	7 years	Yes	Yes
Sweden	3½ years for candidate of medicine. 4½ years for licentiate.	Yes	Chancellor approves.
Switzerland	6½ years	Yes, but limited by government.	Medical Examining Board.
United States	4 years. Following pre-medical education of 3-4 years.	Yes	Council on Medical Education and Hospitals of American Medical Association; Association of American Medical Colleges.

## General Outline of Curriculum

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	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
Australia	Physics, chemistry, biology, including principles of botany, zoology, comparative anatomy and embryology of vertebrate. Introductory physiology, physical education.	Anatomy, including embryology, histology, physiology, biochemistry	Anatomy, including neurology, physiology, biochemistry, First aid, clinical and applied anatomy, clinical application of physiology and biochemistry, Pharmacology, pathology and bacteriology, introductory medicine, introductory surgery, medical psychology, practical pharmacology.	General and special pathology, hematology, bacteriology, morbid anatomy, clinical pathology, social and tropical medicine, general prevention, tropical medicine, parasitology, prevention by sanitation. Medicine Principles and practice, materia medica, therapeutics, hospital practice. Surgery Principles and practice, hospital practice, obstetrics.	Medicine Medical Pediatrics Infectious diseases Pulmonary Tuberculosis Dermatology Diseases of Metabolism Hospital practice Surgery Surgical Pediatrics Surgical anatomy Hospital practice Anesthetics, orthopedics, urology, venereal disease, social and tropical medicine, sanitation, industrial hygiene, forensic medicine, institutional visits Obstetrics, including Resident hospital practice, antenatal care, septic work, operative obstetrics, abnormal infancy, mothercraft, gynecology, Clinical and pathological psychiatry and mental hygiene, history of medicine.	
		Correlation leaves	"Something to be desired"			
Austria	Pre-clinical study for four terms including: Physics Chemistry	Anatomy Physiology Histology		Six terms in clinical study. The coordination between different parts is satisfactory.		

## General Outline of Curriculum (Continued)

11

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
Belgium	At least 4 years First, Second and Third years: Principles of philosophy, experimental physics, zoology and comparative anatomy, general chemistry, botany, elements of embryology, human anatomy, general and special histology, experimental physiology and physiological chemistry.			Pathology, physiology, therapy, pharmacology, therapeutics, pathological anatomy, pathology and treatment of internal disease and mental disease, surgical pathology and treatment, general and special obstetrics, hygiene, public and personal bacteriology and parasitology; legal medicine, clinical medicine and radio-diagnosis, clinical surgery, clinical obstetrics, clinical pediatrics; clinical ophthalmology and oto-rhino-laryngology, dermatology and venereal disease, clinical psychiatry, clinical gynecology, clinical urology, elements of stomatology and tropical diseases.		

## General Outline of Curriculum (Continued)

12

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
Bulgaria	General biology, medical physics, medical chemistry, Languages - Latin, Russian, French, German. Anatomy, Introduction to medicine, physical education, philosophy.	Human anatomy, histology, embryology, physiology, biochemistry, languages.	General pathology, pathological anatomy, pathological physiology, gross anatomy, physiological pathology, bacteriology, medicine, surgery, hospital experience.	Therapeutics, pediatrics, orthopedics. Clinical medicine. Clinical surgery. Gynecology and obstetrics. Pulmonary tuberculosis, demonstrations and techniques in pathological anatomy. Radiology and physiotherapy, oto-rhino-laryngology, hospital and clinic experience.	Clinical medicine, infectious diseases, Urology. Dermatology and venereal disease, diseases of the eye, neurology and hygiene psychiatry, legal medicine, hospital and clinic experience.	Social hygiene and environmental sanitation, medical ethics, occupational diseases, review of physiology.
Canada	2 pre-medical years Medicine or Faculty of Arts and Science. Chemistry, english physics, history or philosophy, biology	taught either by Faculty of Arts and Science. Psychology, anthropology, botany, foreign language, mathematics.	One course chosen from these.	Four medical years taught by the Faculty of Medicine and teaching hospitals. are:- Anatomy, embryology, neuro-anatomy, histology, biochemistry, physiology, pathology, bacteriology, pathological chemistry, clinical microscopy, medicine, surgery, obstetrics, pediatrics, psychiatry, hygiene and preventive medicine, gynecology, ophthalmology, otolaryngology, pharmacology, medical jurisprudence, therapeutics, physical therapy, anesthesia.	taught by the Faculty of Medicine and coordination is attempted. Courses are:- anatomy, neuro-anatomy, histology, bacteriology, pathology, clinical microscopy, medicine, surgery, obstetrics, pediatrics, psychiatry, hygiene and preventive medicine, gynecology, ophthalmology, otolaryngology, pharmacology, medical jurisprudence, therapeutics, anesthesia.	Sixth and Seventh Year Medicine and surgery, psychiatry, urology, gynecology, ear, nose, throat, ophthalmology, diet therapy, pediatrics. (Obstetrics) 2 years Pediatrics) Dermatology, orthopedics, 1 semester.
Chile	7 years. Coordination is done by a committee of the faculty. General biology, physics, physical medicine, human anatomy.	Anatomy, radiology, physiology, histology and embryology.	Physio-pathology, general pathology, chemical physiology and pathology, bacteriology, parasitology. Begin clinical observation in clinical medicine.	Enter hospital - attending morning classes and work in medicine and surgery, pharmacology and pathology.	Courses in medicine and surgery. Hygiene and preventive medicine, neurology, tuberculosis, legal medicine.	



## General Outline of Curriculum (Continued)

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year
China	Varies with different schools - Anatomy, biochemistry, physiology, pathology, parasitology, bacteriology and pharmacology - each one year Medicine, surgery, gynecology, obstetrics and public health - each two years.						
Cuba	7 years. Normal histology, embryology, descriptive anatomy, chemical biology, physical biology.	Descriptive anatomy, physiology, bacteriology, parasitology and tropical disease	Topographical anatomy, physiology, anatomy and pathology, general pathology.	Pharmacology, general pathology, microscopic and clinical chemistry, clinical pathology, and therapeutic hygiene, tuberculosis, obstetrics, theory and practice, radiology and physiotherapy.	Clinical pathology, nervous and mental disease, eye, ear, nose and throat, operating room technique, theory and practice, surgical pathology, medical pathology and clinic.	Clinical medicine, clinical surgery, dermatology and venereology, therapeutics - theory and clinic, urology, hygiene and sanitation.	Clinical medicine, clinical surgery, orthopedics, gynecology, experimental pathology, legal medicine, toxicology, pathology of children and clinical studies.
Czechoslovakia.	First part of course, first five half years devoted to study of:- Physiology, embryology, histology, chemistry, physiological chemistry, physics and biology, political education, physical training.						Second part devoted to: Political education and physical training, pharmacology, experimental pathology, bacteriology, hygiene and clinical courses of:- Medicine, surgery, gynecology, obstetrics, pediatrics, neurology, psychiatry, forensic medicine, ophthalmology, rhinolaryngology and other specialties.

## General Outline of Curriculum (Continued)

11

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year
Denmark	Inorganic chemistry, organic chemistry, physics and philosophy including normal psychology.	Human anatomy histology embryology physiology biochemistry		"Volunteer" hospital service, bacteriology, genetics and hereditary disease, clinical medicine and pediatrics.	Neurology and psychiatry, clinical course in skin and venereal disease, clinical surgery, radiology, ophthalmology, otorhino-laryngology epidemic disease, "Practi- cant" hospital service (clerking)	Pathology, bacteriology, pharmacology, hygiene.	Medicine, surgery, obstetrics, gynecology, forensic medicine, hospital experience.
Eire	Pre-registration year - Botany, zoology, physics, chemistry	Medical Course Proper anatomy physiology, histology		Pathology, hygiene materia medica, medical jurisprudence, clinical experience.	Devoted to general and specialist hospital work and various clinical subjects in medicine, surgery, obstetrics and gynecology.		
France		Anatomy, histology embryology, physiology, medical physics, medical chemistry, general medicine, general surgery.	Pathological anatomy, bacteriology, obstetrics, experimental medicine  Pathological surgery, pathological medicine, hospital experience.	Pharmacology	Hygiene, legal medicine and ethics, therapeutics, hydrotherapy, pharmacology, psychiatry, neurology, pediatrics, hospital experience	Hospital experience in medicine, surgery, obstetrics, laboratory sciences.	

## General Outline of Curriculum (Continued)

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
Great Britain	Pre-medical subjects. Physics, chemistry, biology.	Pre-clinical subjects, mainly anatomy and physiology.	Third to fifth or sixth years - Clinical subjects, including teaching in the wards. One of the defects in the present scheme is the adoption of the "compartmental" system of teaching, in which the syllabus and teaching of each subject are arranged with little or no reference to the arrangements for other subjects. This results in a certain amount of overlapping and of divergence in methods of teaching. The British Medical Association has published a Report of a Special Committee on the Medical Curriculum "The Training of a Doctor" in which the central theme is a plea for an integrated course of study and for much closer cooperation among the different teachers.			
Hungary	Medical physics, chemistry, anatomy, relation of medical vocation to society.	Gross anatomy, histology and biology, physiology, biochemistry, first aid and care of the sick.	Clinical medicine, applied surgery, pathological anatomy and histo-pathology, pharmacology, general pathology, bacteriology and immunology, medical psychology.	Clinical medicine, applied radiology, obstetrics, gynecology, pediatrics, mental and nervous disease, ophthalmology, ear, nose and throat diseases.	Applied surgery, urology, dermatology and venereology, differential diagnosis, stomatology, tuberculosis, infectious disease, forensic medicine, public health, occupational disease.	
Iceland	Anatomy and Physiology. Normal psychology and chemistry as basic sciences cover three years.  All well coordinated.			Pathology Pharmacology		Sixth and Seventh Year Clinical medicine and surgery, obstetrics, hygiene, forensic medicine.

## General Outline of Curriculum (Continued)

16

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
India University for degree program	Human anatomy and physiology including:- Dissection of entire body, histology, embryology, principles of physiology, biochemistry and biophysics, genetics, normal psychology, general pathology and bacteriology, methods of clinical examination, introduction to pharmacology.			Pathology and bacteriology including:- General and special pathology, clinical and chemical pathology, general bacteriology and parasitology, clinical bacteriology and parasitology, immunology and immunization, pharmacology and materia medica, forensic medicine, hygiene and public health, medicine, including principles, and practice with adults and children. Special courses in diseases of infancy and childhood, acute infectious disease, tuberculosis, mental disease and psychopathology, diseases of skin - leprosy, radiology and electro-therapeutics, surgery, including principles and and practice with adults and children in:- Minor surgery, anesthesia, operative surgery, ophthalmology, diseases of ear, nose and throat, radiology and surgery, venereal disease, orthopedics, dental disease, surgical diseases of infancy and childhood, obstetrics - diseases of women and infant hygiene including observations and supervised experience.		
Italy ✓	Chemistry, physics, biology or zoology, embryology	Human physiology, medical pathology, clinical pathology, bacteriology, parasitology, chemical pathology		Pathological anatomy, pharmacology, surgical pathology, medical pathology, oto-rhino-laryngology, radiology, urology, surgical anatomy.	Pathological anatomy, general clinical medicine, general clinical surgery, mental and nervous disease, dermatology, disease of eye, disease of ear, hygiene.	Clinical medicine, Clinical surgery, obstetrics and gynecology, pediatrics, legal medicine, criminal anthropology, semi-tropical diseases, orthopedics, hydrotherapy.
Luxembourg	NO MEDICAL SCHOOL IN COUNTRY, STUDENTS GO TO SCHOOLS IN BELGIUM, FRANCE OR SWITZERLAND.					

## General Outline of Curriculum (Continued)

17

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year
Netherlands	Physics, chemistry, botany, zoology, parasitology.	Embryology, histology, biochemistry, general pathology, anatomy.	Pathology, physiology, pharmacology, toxicology.	Public health, microbiology, pharmacology, pathology, pathological anatomy, internal medicine, special pathology.	Obstetrics, gynecology, surgery, ophthalmology, neurology, psychiatry, pediatrics, pharmacy.	Internal medicine, neurology, psychiatry, pediatrics, pharmacy.	Surgery, oto-rhinolaryngology, obstetrics, gynecology, ophthalmology, dermatology, venereal disease.
Norway	Psychology, philosophy, physics, chemistry, Latin.	Anatomy, histology, physiology, biochemistry.	Medical pathology, bacteriology, pharmacology, toxicology.	Surgical pathology, skin and venereal disease, radiology, practical experience, diseases of eye.	Surgical pathology, practical experience, under supervision.	Obstetrics, gynecology, pediatrics, psychiatry, hygiene, otolaryngology, forensic medicine.	The following are offered but not required: Tumors, orthopedics, pulmonary tuberculosis, surgical tuberculosis, practical experience.
Spain	Physical education, political science, religion, experimental physics, experimental chemistry, special physiology, Descriptive anatomy, technical anatomy, histology and general embryology, physiology, general and biological chemistry.	Physical education, political science, religion, bacteriology and parasitology, special physiology, Descriptive anatomy, histology, general and biological chemistry.	Physical education, political science, religion, general pathology, pharmacology, pathological anatomy, physiological therapy, clinical	Pathology and Pathology and Psychology obstetrics	Clinical medicine, clinical surgery, Pediatrics and child care, gynecology, oto-rhinolaryngology, ophthalmology	Hygiene and health, psychiatry, legal medicine, dermatology, venereal disease.	Pediatrics, obstetrics, history of medicine, clinical medicine, clinical surgery, ethics.
Sweden	Anatomy and osteology, general chemistry, histology.	Medical chemistry, physiology	General pathology, bacteriology, pharmacology.	Pharmacology, medicine, including pediatrics including physiology of the well child, and therapy of diseases of childhood. Surgery, including surgical pathology and therapy, ophthalmology including diseases, Obstetrics and gynecology, pathological anatomy, forensic and state medicine. Practice under supervision.	Medical pathology and therapy, pediatrics and pathology and surgery, including surgical pathology and refraction; and state		

## General Outline of Curriculum (Continued)

18

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year
Switzerland	Physics, chemistry inorganic and organic; botany, zoology, comparative anatomy.	Anatomy Histology Embryology Physiology Physiological chemistry		Pathological anatomy, general and special; general surgery, hygiene, legal medicine, pharmacology and therapeutics, first aid, physiotherapy, orthopedics, diagnostic radiology, clinical medicine, clinical surgery, obstetrics and gynecology, pediatrics, dermatology and venereal disease, ophthalmology, oto-rhinolaryngology, psychiatry, bacteriology. Active practice under supervision in all courses.		
United States	Gross anatomy, histology, neuro-anatomy, embryology Public health and preventive medicine, physiology, biochemistry.	Pathology, bacteriology, pharmacology, laboratory diagnosis. Physical diagnosis Introduction to surgery, introduction to medicine.	Internal medicine, including contagious diseases; tuberculosis, general surgery including anesthesia, gynecology, radiology, pediatrics, psychiatry, field work in public health and preventive medicine, hospital experience under supervision.	General medicine, general surgery, pediatrics, psychiatry, obstetrics, medical specialties, dermatology, neurology, surgical specialties, orthopedic surgery, urology, ophthalmology, radiology, gynecology, hospital and clinic experience under supervision.		

	Is special training in chemistry, physics and biology before entering medical school expected?	Are these subjects taught with special reference to medicine?	Does the medical profession regard the teaching of physics, chemistry and biology as adequate preparation for the medical course?	Are teachers of anatomy and physiology medically qualified?	Does the medical profession regard the teaching of anatomy and physiology as satisfactory?
			Criticisms		Criticisms
Australia	Varies	Yes - but varies	Yes	Nearly all	Yes 1. Might have more correlation between pre and clinical teaching. 2. Greater stress on inter-relation of physical and psychological aspects.
Austria	No	Yes a certain amount	Yes	Yes	Yes
Belgium	Yes, the first year is a year of preparation.	Yes	Yes	A few believe it is excessive.	Yes, with few exceptions
Bulgaria	No	Yes		Yes, except professor of philosophy.	Yes
Canada	Yes - in pre-medical school.	Yes, if taken in pre-medical school	Disputed	1. Too time consuming, not enough application or; 2. Too little time and regard for importance in research investigations	Yes, except psychology
Chile	No	No, basic science with application	Yes	Yes	Yes Improvements could be made.
China	Yes	No, as basic science	Yes	Yes	Yes
Cuba	Yes	No	Yes	Yes	Yes
Czechoslovakia	No	Yes	Yes	Yes	Yes



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	(1)	(2)	(3)	(4)	(5)
Denmark	No, chemistry and physics taught at medical school.	Yes	No Too extensive especially physics.	Yes, except psychology.	No Psychology should be taught with special reference to medicine. Anatomy should give more dissection experience and needs more teachers. Pre-clinical training ought to be reduced in favor of clinical training.
Eire	No	Yes, a certain amount.	Yes	Yes	Yes
France	Yes			Yes	
Great Britain	Some students take the examinations in physics and chemistry before they enter; others study these subjects in medical school.	Yes, to a certain degree. Taught as separate subjects and not as an integrated course of general basic science.	Some feel, 1. Not adequate basis of scientific method. 2. Not accorded sufficiently high status. 3. Insufficient co-ordination.	Nor necessarily but many are.	1. Too much detail of little educational value. 2. Too much post mortem, not enough living organism. 3. Too much emphasis on the abnormal. 4. Too little co-ordination between anatomy and physiology and between these subjects and clinical teaching.
Greece	No	No, as general science	Yes	Yes	No Except for anatomy which is satisfactory there is a great lack of laboratory facilities.
Hungary	No	Yes	Time devoted to theoretical training may not be extended or more.	Yes	Yes Endeavoring to improve and complement teaching equipment.

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	(1)	(2)	(3)	(4)	(5)
Iceland	No	No, as basic science.	Yes	Yes except psychology and chemistry.	Anatomy too limited due to difficulty in obtaining cadavers.
India	No	No, as basic science	Divided. Some think it would be better to have it applied to medicine.	Yes except bio-chemistry.	No 1. Too much detail. 2. Classes are too large. 3. Inadequate facilities.
✓ Italy	No	No, as basic science.	Satisfactory theory, but practice sections are too large and facilities are limited.	Yes	Satisfactory but practice sections are too large and facilities are limited.
Luxembourg	Yes, a year of study in a higher course in Luxembourg	Yes	A certain member would prefer a general science	No medical	school.
Netherlands	No	Basic science with medical application.	Yes	Training in physics, chemistry, biology should be more adapted to medicine.	Yes
New Zealand	Yes	No	Yes	Yes	Yes
Norway	No	Yes in physics and chemistry.	Yes	Yes	Normal anatomy is too detailed.
Spain	No	Yes	Yes	Yes	Yes
Sweden	Yes	No, as general science.	No	Not enough practical application. Too elementary, general physiology completely neglected.	Yes Not 1. Outdated laboratories. 2. Excessively live lectures. 3. Too much detail. 4. Inadequate correlation. 5. Lacks clinical orientation. 6. Inadequate current literature. 7. Clinical too much separated.

	(1)	(2)	(3)	(4)	(5)
Switzer- land	No	Yes	Some believe these should be taught before entrance to medical school in order to shorten the years in medical school.	Yes some, and doc- tors of nat- ural science	Yes
United States	Yes, one year biology one year physics, and two years chemistry.	No, as basic science	Yes	Yes many. A few doc- tors of phi- losophy	Yes Many feel too much time de- voted to anatomy.

## General Features of Courses in Anatomy, Physiology and Normal Psychology

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	Anatomy	Physiology	Normal Psychology
Australia	A course of lectures and demonstrations in topographical anatomy, neurology, embryology and histology together with dissection of the whole body during second and third years.	Lectures and demonstrations in Physiology and bio-chemistry are given during second and third years. The course in physiology includes the principles of general physiology and the physiology of all the systems of the mammal with special account of the functions of certain systems. Laboratory work is carried out weekly. The course in bio-chemistry includes lectures and laboratory work during second and third years with special reference to the more advanced aspects of the bio-chemistry of animals, particularly man.	A course of lectures given in the third or fourth year. The course is designed to give an introduction to the principles of general psychology and psycho-pathology with special reference to the psychology of different epochs in the life of the individual and the application of psychology to medical problems.
Austria	Anatomy and physiology is taught simultaneously by lectures and practical work (dissections and experiments).		Normal psychology is not taught at all.
Belgium	Anatomy, physiology and normal psychology are taught under a plan similar to that		of the universities of France and Germany
Bulgaria	First year - 5 hours weekly - lecture 2 hours weekly - practice Second year - 5 hours weekly - lecture 8 hours weekly - practice Third year - 2 hours weekly - lecture 1 hour weekly - practice	Second year - 7 hours weekly - lecture 4 hours weekly - practice Third year - 2 hours weekly - lecture 2 hours weekly - practice Sixth year - 1 hour weekly - lecture	Taught in the course in philosophy in the first year, and repeated briefly in the course in neurology and psychiatry.

## General Features of Courses in Anatomy, Physiology and Normal Psychology

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	Anatomy	Physiology	Normal Psychology
Canada	Gross anatomy - first year students dissect upper and lower limbs, abdomen and thorax and begin dissection of head and neck; finish head and neck in second year. Demonstrations given on surface and x-ray anatomy. Embryology - 30 lectures concurrent with gross anatomy, stress laid on human embryology through brief comparison of amphibian, avian and mammalian development. Histology - 36 lectures and lecture demonstrations and 108 hours of practical work. Neuro anatomy - 36 hours lecture; 35 hours laboratory.	First year - 40 hour lecture, films and demonstration on physiology of nerve, muscle, nervous system, special senses and blood. 60 hours general laboratory course. Second year - 60 hour lecture on physiology of circulation, respiration, digestion, secretion, kidney, reproduction, ductless glands and metabolism. A general laboratory course of 90 hours.	Second pre-medical year - introductory survey of psychology including: history; efficiency in study; origin and control of human activity; affective behavior; individual difference; knowing our disorders. Second medical year - application of psychological principles for the prevention of mental disorders.
Chile	During first year - descriptive anatomy three half days weekly in theory and laboratory application in dissection room. First half of second year - topographical anatomy with radiology - theory and laboratory experience is provided.	Study entire second year. Theory lectures and practical demonstrations held three times each week. One complete day weekly students spend doing experiments.	Is not offered as a special course, but in psychiatry some lectures are devoted to the principles of normal psychology.
Cuba	Descriptive, 1-2 years - 12 hours weekly. Topographical third year, six hours weekly.	General - second year - six hours weekly. Third year - six hours.	Not given.
Czechoslovakia	Taught during 3-4 semesters on a very detailed basis.	Taught during 3-4 semesters on a very detailed basis.	Plan to teach normal psychology and general psychopathology together.
Denmark	Includes human anatomy, histology and embryology. It is taught in modern, well equipped institutes under the medical faculty. It is done by lectures, demonstration and some dissection.	Taught in manner similar to anatomy.	Taught by faculty of philosophy, not especially arranged for medical students.

## General Features of Courses in Anatomy, Physiology and Normal Psychology (Continued)

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	Anatomy	Physiology	Normal Psychology
Eire	Taught for two years.	Taught for two years.	A short course on psychology is given to each student.
France	Taught for two years.	Taught for two years	
Great Britain	Taught as pre-clinical course for one year. The course includes histology, the elements of genetics, the methods of clinical examination and introduction to general pathology, bacteriology and pharmacology.		Recently added and taught as a pre-clinical course.
Greece	Taught three hours each week in theory; three hours daily in laboratory practice.	Taught three hours a week with two hour laboratory experience; animals are used for experimentation.	Is not taught as a separate course, but as an introduction to neurology and psychiatry.
Hungary	Lectures five hours weekly for two semesters and laboratory ten hours weekly for two semesters, course material includes histology and biology.	Lectures seven and one-half hours weekly for two semesters. Laboratory ten hours weekly for two semesters. Study supplemented by course in biochemistry.	One lecture a week given for two semesters.
Iceland	Teaching is theoretical and practical including exercises in histology.	Teaching is theoretical and practical including biochemistry, experiments all done on human body - do not use animals.	An obligatory course in all departments of the university. A theoretical course.
India (University for degree program)	Theoretical lectures and demonstrations are given in anatomy and physiology in a course lasting two years. The students dissect the entire human body. Biophysics, biochemistry and histology are also included on humans and mammals.	are given in anatomy and physiology in a course lasting two years. The students dissect the entire human body. Biophysics, biochemistry and histology are also included. Physiological experiments are done on humans and mammals.	A new subject being introduced. Is taught simultaneously with anatomy and physiology.
Italy	Fundamental to all other teaching, the student dissects a cadavar. General course followed by special courses and extends through fifth year.	Fundamental to all other teaching, the student learns through laboratory experimentation.	Not a required course and not taught by the medical school faculty.
Luxembourg	NO MEDICAL SCHOOL IN COUNTRY. Students	go to schools in Belgium, France or Switzerland.	
Netherlands	Partly theoretical, partly practical.	Partly theoretical, partly practical.	Taught by Professor of psychiatry.

	Anatomy	Physiology	Normal Psychology
Norway	Includes lectures, group examination, demonstration and courses in dissection and histology.	Includes lectures, group examination, demonstration and courses in physiology and physiological and medical chemistry.	
Sweden	Taught during the first year with correlation between gross anatomy and histology. Lectures and dissection are the methods of teaching.	A three month laboratory course giving the students an opportunity for independent work, supplemented by a series of lectures.	Not studied during premedical training.
Switzerland	Taught in three semesters combining all branches of anatomy - micro and macroscopic. Dissection is practiced by the students.	Based on general physiology. The course is especially applied to human physiology. Films, lectures and laboratory experience are combined. The course extends over three semesters.	
United States	Gross anatomy, instruction largely work in dissection room where student does complete dissection of a cadaver. A few lectures are given. Histology, embryology and neuroanatomy are taught by lectures and laboratory exercises. Student studies about two hundred prepared slides under supervision.	About one quarter of course devoted to lecture, the remainder to laboratory. About one-half experiments performed on dogs and cats; a variable number on the student himself and a few involve use of cold blooded animals.	Taught almost entirely by lecture.



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 General Features and Organization of Clinical Training

	General Approach	Coordination in teaching and cooperation among teachers.	Student appointment in teaching hospital.
Australia	Small groups with tutors. Limited lecture and demonstration. Rotation of clinical bedside instruction in medicine, obstetrics, surgery and special departments. Special cases are assigned to student.	Coordination defective in the clinical teaching.	No appointment, acts as clinical clerk.
Austria	Simultaneous lecture and hospital work in the various clinical fields. Student also attends lectures in pathology, pharmacology, hygiene and forensic medicine during this period.	Satisfactory	No
Belgium	Presentation of diseased conditions through actual visits to the patients in the hospital.	Satisfactory	Assistant dresser.
Bulgaria	Assigned under supervision to clinics beginning with the third year and coordinated with lectures to a degree.	Some coordination, teaching is not the function of the hospital.	
Canada	Short didactic instruction precedes actual contact with patients. Major teaching in small groups at bedside of patient beginning in the second year.	Bedside clinics follow lecture closely.	No, except schools that include a one year internship.
Chile	Individual and group teaching which is both theory and practical.	Tendency to increase.	Not obligatory but he does attend at the hospital regularly.
China			Yes
Cuba	Clinical teaching is comprised by both theory and practice carried out in the university and special hospitals.	Yes	Officially no, there are appointments for internships obtained by competitive examinations.
Czechoslovakia	Principle form of teaching is lecture. In clinical subjects the lectures are followed by demonstrations. Advanced students assist the teachers.	Not officially but exists in practice.	
Denmark	1. Theory in lectures. 2. Practical clinical work in hospitals. 3. Lectures with patient-demonstrations. 4. Clinics where student examines patient, stating diagnosis, prognosis and treatment.	Lacks coordination.	No

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	(1)	(2)	(3)
Eire	Serves period of internship in recognized teaching hospital. Becomes familiar with all principle activities of hospital.	Reasonably satisfactory	Appointed to work with one member of hospital staff.
Great Britain	The third, fourth and fifth years of the curriculum are occupied continuously with clinical studies. They include medicine, surgery and midwifery in which the student has systematic instruction in principles and practice of each, a period of residency in hospital, regular attendance in out-patient departments and special instruction in certain special branches of each service. The following special branches of medicine are also considered during this period: Pathology and bacteriology, pharmacology and materia medica, hygiene and public health, forensic medicine, legal and ethical obligations of medical practitioners.	Little coordination	Clinical clerkship, for example, medicine, six months adults, one month children. Surgery, six months - dresser-ship. Midwifery, clinical midwifery, also in some special subjects.
Greece	Teaching is done at the bedside of the sick with practical experience for two to four months in the hospital.		
Hungary	Clinics are predominately teaching hospitals and include lecture and demonstration equipment. Ward visits in afternoon reinforce lectures. Students assigned to take case histories and follow the progress of the patient. Clinical teaching occurs during the third, fourth and fifth years.	Coordination between lectures and lecturers.	
Iceland	Theory followed by clinical training with definite assignments to actual experience in various clinical field in hospitals.	Good - some instructors at university medical department and as staff doctors at national hospital.	
India	Last three years of training student attends out-patient department and works as clinical clerk in charge of a definite number of patients. Lectures and clinical classes held in hospital wards.	Yes	As clinical clerk.
Italy	Theory is followed by observations in out-patient clinics and hospital wards. The doctors coordinate theory with observations.	Yes - by the university. Students also frequently go to community hospitals to observe.	Generally no.
Luxembourg	NO MEDICAL SCHOOL		

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General Features and organization of Clinical Training

	(1)	(2)	(3)
Nether-lands	Four phases of study for degree mainly theoretical with clinical demonstrations. This is followed by varying lengths of times in different clinics in all subjects under supervision of the professor or assistant.	By mutual agreement.	
New Zealand	Introductory clinical course as recommended by General Medical Council of United Kingdom.	Yes, by the faculty.	Yes.
Norway	Taught largely at clinics with a few lectures. Students rotated through clinical departments where they examine patients and make case notes.	Very little cooperation or coordination.	No.
Spain	Practice in hospitals under the supervision of the theory professor closely follows lecturers.	Yes	Clinical clerk, no special appointment.
Sweden	Three months introduction to clinical medicine with lectures. Each clinical field includes practical experience.	Some between specialists. None from pre-clinical to clinical.	No.
Switzer-land	Course in theory of clinical medicine precedes actual case study in internal medicine and surgery.	Between professors and hospital doctors, good. Within university, limited.	Yes
United States	Largely bedside teaching with student assigned to patients on whom they perform complete history, physical examination and laboratory studies. Discussion of cases is carried on with instructors. Lectures limited to the basic concepts of medicine.	Cooperation considered satisfactory. Continued effort to achieve maximum cooperation and coordination.	Clinical clerks with no special appointment.

	Is sufficient emphasis laid on:				Are teachers:	
	Prevention of illness	Mental aspects of illness	Social, economic, occupational and environmental factors of illness	Individuality of patient	Full time or part time	Consultant or specialist status
Australia	No, except at University of Queensland	No	No, except at University of Queensland.	No	University, full time. Hospital part time	Mostly specialist
Austria	Yes	No	No, but slightly improved.	No	Theory full time Hospital part time	Specialist
Belgium	Yes	Yes	Yes	Yes	Some full time others part time	Specialist or medical consultant
Bulgaria	Yes	Yes	Yes	Yes	Full time for the most part	Consultant
Canada	Yes	Improving	Improving	Improving	Theory part time Hospital head of department full time.	Consultant and specialist.
Chile	Yes	More could be placed.	Yes	Yes	Some full time, majority part time	No
China	Yes	Some	Some	Yes	Both	Consultant and specialist.
Cuba	Yes	Yes	Yes	Yes	Part time	Specialist and consultants.
Czechoslovakia	Yes	Insufficient	Yes	Yes	Full time	Specialist
Denmark	Insufficient	Insufficient	Insufficient	Insufficient	Part time	Specialist
Eire	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Theory majority full time Hospital part time	Specialist
Great Britain	Insufficient	Insufficient	Insufficient	Insufficient	Part time except for a small proportion.	All consultant and specialist. Most of them in private practice. A small proportion are full time teachers.
Greece	No	No	No	No	Part time	

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	Is sufficient emphasis laid on:				Are teachers:	
	(1)	(2)	(3)	(4)	(5)	(6)
Hungary	Yes	Yes	Yes	Yes	Part time	Consultant
Iceland	Insuffi- cient but improving	Insuffi- cient but improving	Insuffi- cient but improving	Insuffi- cient but improving	Both	Specialist
India	No, except hygiene	No	No	Yes, to an extent	Both clinical teachers in non- govern- mental in- stitutions part time	Consultant and spe- cialist mostly.
✓ Italy	Insuffi- cient	Insuffi- cient	Insuffi- cient	Insuffi- cient	Part time	Consultant and spe- cialist.
Luxem- bourg	NO MEDICAL SCHOOL					
Nether- lands	Until now no, much improved at present	Individu- al task of each clinical professor	Until now no, much improved at present	Individual task of each cli- nical professor	Full time	Consultant
New Zealand	Yes	Yes	Yes	Yes	Full time except professor of sur- gery.	Consultant
Norway	Insuffi- cient but improving	Insuffi- cient but improving	Insuffi- cient but improving	Insuffi- cient but improving	Most are part time	
Spain	Yes	Yes		Yes	Part time	Specialist
Sweden	Yes, usual- ly	Depends upon in- structor	Depends upon in- structor	Depends upon in- structor	Professors and instru- ctors part time. In- terns full time	Consul- tants and spe- cialists.
Switzer- land	Depends upon pro- fessor	Insuffi- cient	Yes, gen- erally	Yes	University full time Hospital part time	Special- ist.
United States	Until recently insufficient. Present trend producing more adequate emphasis on these phases.				Most schools have full time nu- cleus. A few have majority full time	Special- ist.

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Do general practitioners take part in the teaching of undergraduate students? What capacity and extent?		Is the system of clinical training satisfactory in the view of the medical profession?	
		Criticisms	
Australia	Yes - Limited extent in anatomy and special departments. They give no lecturers.	Fairly satisfactory	1. Too much given in specialties, not enough principles and practice. Need shorter course for specialties. 2. Sacrifice commoner conditions to rarer diseases. 3. Need more psychosomatic principles. 4. Need higher level of teaching. 5. Need more in experimental method during clinical years.
Austria	No	Yes	
Belgium	No	Yes	
Bulgaria	No	Yes	
Canada	Very few		A general weakness in the graduates entering general practice in dermatology, proctology, otolaryngology and ophthalmology. Also need instruction in the mental, sociologic and economic aspects of illness.
Chile	Yes, partly as assistants with degrees.		
China	Yes, part time	Yes	
Cuba	Only as assistants; in limited number and by special selective examination.	No	The number of hospitals for teaching students is insufficient.
Czechoslovakia	No	No	Not enough practical experience. Young doctor must have two years post graduate work in a hospital to become a practitioner or a health insurance physician.
Denmark	Trying an experiment in having general practitioners lecture on "The Duties and Working Methods of the General Practitioner".	No	Need less lecturing and more teaching at bedside and dissecting table. Need more teachers and smaller student groups. Clinical training should have more regard for general medical practice. Clinical subject teaching too frequently interrupted by theory teaching. Clinical specialties taught too early.
France	Occasionally as an assistant teacher.		Under investigation.
France	No	Yes	

	(1)	(2)	Criticisms
Great Britain	No		In view of the B.M.A., clinical instruction of medical students has many defects. 1) Too little coordination of syllabuses. The courses ought to be designed as an integrated whole to give the student a synoptic view of the basic principles and practice of medicine. 2) Too much detail is included. 3) Not enough emphasis is laid on personality of the patient and on his reaction to his individual environment. 4) Teaching tends to stress the rarer diseases at the expense of the commoner conditions which the practitioner will frequently find in his practice.
Greece	Yes		It depends upon the teacher.
Hungary	Yes, under special conditions	Yes	Provided number of students is not excessively high.
Iceland	No		Insufficient practical experience for students. Cases for observation not varied enough.
India	No, although tutors and demonstrators in medical colleges may do general practice.	Yes	Insufficient number of in hospital patients for student observation. Shortage of well qualified experienced professors and lecturers.
✓ Italy	Yes		Theory satisfactory. Practice not enough cases and too many students.
Luxembourg	NO MEDICAL SCHOOL		
Netherlands	No	Not completely	Tendency to allow student during theoretical training to work practically with patients.
New Zealand	Yes, as members of hospital visiting staff.	Yes	
Norway	No		Young physician lacks practical training.
Spain	Yes, in supervision of practical experience.	Yes	Some schools do not possess necessary equipment for teaching.
Sweden	No		1. Excessive classroom instruction. 2. Teacher shortage, inadequate guidance in handling patients. 3. Insufficient correlation especially in pre-clinical subject. 4. Limited contact with current literature.

	(1)	(2)	Criticisms
Switzer- land	No, except for special lectures.		Some feel it might be better to have students work more with general practitioners.
United States	To a very limited extent. A number of schools are planning courses in problems and opportunities of general practice to be taught by general practitioners.	Yes	



## VII Examinations

35

	General scheme of examinations, form, time, place in curriculum and subject.	Are there separate examinations in each clinical subject?	Are clinical subject examinations co-ordinated?	By whom are examinations conducted?				Are class records taken into account?	Is the system of medical examinations satisfactory in the opinion of the medical profession?	Criticisms
				Internal examiners	External examiners	Internal and external examiners				
Australia	Written, oral and practical held annually.	Yes	Yes	Yes, Adelaide, Queensland Sydney		Yes, Melbourne	Yes	Yes		
Austria	Oral and practical. Five examinations pre-clinical after the second year. Twelve clinical examinations after five years of study (absolutorium covers all subjects.).	Yes	No	Yes				Yes		
Belgium	Given each year in July and October.	Yes	Yes	Yes				Yes		
Bulgaria	Written, oral and practical held at end of each term, in June, October and February.	Yes	Yes by professors	Yes				Yes		
Canada	Written, and oral held at end of each term over subjects taught during term.	Yes, except pathology, anatomy, radiology which are co-ordinated in clinical courses.		Yes during course of study.	Rarely	Yes for final examination	Occasionally.	Yes		

## VII Examinations (Continued)

VII Examinations (Continued)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Chile	Yearly course have an examination at end.	Yes, for specialties.	Medicine and surgery together.	Yes, Professor in charge of course and two other specialists	At times		Yes	Yes
China	At the end of each term and on completion of course.	Yes		Yes			Yes	Yes
Cuba	Two types - midterm during course and final examinations including all materials, theory and practical.	Yes for specialties.	Not coordinated.	Yes, Professor of course and sometimes Professors of other courses.	No	No	Yes	Yes
Czechoslovakia	State examinations are written and oral at end of first year, fifth semester over theory. After fifth year clinical examinations are given, also student may be examined at any time during course, and at the end of each course.	Yes	Yes	Yes	No, but government may send representative to all examinations and he may take part.	Yes	Yes	Yes

## VII Examinations (Continued)

37

	(1)	(2)	(3)	By whom are examinations conducted?				(8)
				(4)	(5)	(6)	(7)	
Denmark	Written, oral and practical end of first year. Preparatory examination end of third year, lecture courses end of sixth year, written and oral examinations over each clinical subject.	Yes	Not much			Yes	No	Yes
Ireland	End of each year over clinical and theory subjects.	Yes	Yes			Yes	To a minor extent.	Yes
France	Written, oral and practical given at the end of each year..	Yes	Yes	Yes			Yes	Yes
Great Britain	Written, practical and oral and taken as follows: End of first year physics, chemistry, biology. End of second year - anatomy and physiology. During third and fourth years - examinations in special clinical subjects. End of fifth or sixth year - final examinations in medicine, surgery and midwifery.	Yes	Very little.		Yes		No	No
Greece	Written and oral given yearly.	No	No	Yes			Yes	Yes
								1. Absence of coordination. Examinations in clinical medicine should be designed as an integrated whole. 2. Examinations held too frequently in clinical years. 3. Rely too much on memory work and do not adequately test understanding of subject and ability to deal with practical problems.

	(1)	(2)	(3)	Examinations conducted?				(7)	(8)
				(4)	(5)	(6)	(7)		
Hungary	Oral and practical given at end of each year. 1-4 year largely theory; during sixth year student may begin theory and practical examination in clinical subjects in any sequence desired.	Yes		Yes			Yes	Yes	
Iceland	Written, oral and practical given at end of first, third, fifth and seventh year.	Yes	Yes			Yes	No	Yes	
India	Written, oral and practical examinations given twice yearly.	Yes, clinical subject grades are cumulative.				Yes	Sometimes	Yes	
Italy	Written and oral given twice yearly.	Yes	No	Yes		Yes	No		It has been necessary to reduce the length of examinations. The doctors would prefer to take the examination at the foreign school than the registration examination at Luxembourg.
Luxembourg	Written, oral and practical.	Yes		Examinations are conducted by a special medical commission in Luxembourg.		Yes	No		
Netherlands	Four parts to degree examination on completion of first, third and fifth year. Two parts to practical examination at end of six and seven and one-half years.			Degree examinations		Practical examination (State Committee)	No	Yes	

## VII Examinations (Continued)

39

	(1)	(2)	(3)	By whom are examinations conducted?				(8)	
				(4)	(5)	(6)	(7)		
New Zealand	Written, oral and practical given at end of each year over subjects covered by students.	Yes				Yes	Yes	Yes	
Norway	Written and oral given twice yearly over theory and clinical subjects.	Yes	No			Yes		Yes	
Spain	Examined four times yearly with a final examination in June.	Yes	No	Yes				Yes	
Sweden	Written and oral. May be taken following each course or may be postponed until later.	Yes		Yes			Yes	Not entirely	1. May take examination at same time as attending another class. 2. Division of instruction into small portions makes it difficult for student to find coordinated whole.
Switzerland	Oral and practical after two, three, eight and thirteen semester covering courses completed.	Yes	Yes			Yes	No	Yes	Would be desirable to also evaluate the personality of each candidate.
United States	Great variation. May be written, oral, practical or all three. Final examination in each course lasts one to three hours. During preclinical period a number of examinations may be given during the course as well as at its conclusion.	Yes	No	Yes			Yes	Yes	

## VIII Internship or Practice under Supervision

110

	Do students have a period of practice under supervision as an integral part of their education?	Duration of practice period?	Nature of practice period?	Is internship taken			If taken after qualifying examination; before licensing is another examination given?	Is student paid during internship? Is the remuneration adequate?	Legal position of student during internship?	Are arrangements generally satisfactory?	Suggestions
				before final qualifying examination?	after qualifying examination; before licensing?	after licensing?					
Australia	No			No	No	Yes					Internship should be obligatory for all students.
Austria	No			Yes	No	No	No	No	Very poor, no right to work without permanent supervision.	Generally no.	Improvements cannot be suggested due to lack of funds.
Belgium	Yes	One year - the seventh year.		Yes				No	Chief of staff responsible for work of student.		A period of experience in general medicine similar to that for specialists is proposed
Bulgaria	Yes	345 days	Rotation of services and experience.	Yes	No	No		Receives one-half stipend of doctors assistant and free board.	A student	Yes	

## VIII Internship or Practice under Supervision (Continued)

41

	(1)	(2)	(3)	Is internship taken			(7)	(8)	(9)	(10)
				(4)	(5)	(6)				
Canada	Yes, in six schools.	One year	Internship under supervision.	Yes for six schools	No	Yes for three schools		Yes, in teaching hospitals a yearly honorarium of \$100 to \$300; non-teaching hospitals, \$25 to \$75 monthly.	Very limited they are agents of the hospital or deputies of the attending staff.	Generally yes Preferable to have all interns fully licensed. Canada has more approved internships than annual output of medical schools.
Chile	Yes	Fourth - Seventh year.	Permanent practice in various fields.	Yes	No	No		No	He cannot act professionally.	Yes
China	Yes	One year	Practice under supervision	No	Yes	No	No	Yes, but not adequately.	Department head or hospital superintendent responsible.	Yes
Cuba	No, obligatory attendance only to classes, theory and practice.	Practical classes begin in third year.		Yes	No			Special intern students, yes.	Only as medical assistant in hospital.	Yes Desire obligatory internship but impractical with present hospital facilities.

## VIII Internship or Practice under Supervision (Continued)

12

	(1)	(2)	(3)	Is internship taken			(7)	(8)	(9)	(10)	
				(4)	(5)	(6)					
Czecho-slovakia	No, but post-graduate must spend two years in hospital before becoming independent practitioner.			No	No	Yes	No			Yes	
Denmark	Yes	Six months, volunteer service, six months, practitioner service.	Rotation of experience under supervision.	No	Yes	No	No	None for volunteer service or for practitioner service. Very modest for internship after final examination.	A doctor licensed for subordinate appointments.	Yes	Salaries for the obligatory internship should be increased.
Ireland	No, but large number do serve term as house physician or house surgeon.										
France	Yes	Five years	Hospital study and practical work in school laboratory.	Yes	No	No	No	Yes	Hospital is responsible	Yes	
Great Britain	No	One year period is under consideration									



## VIII Internship or Practice under Supervision (Continued)

43

	(1)	(2)	(3)	Is internship taken			(7)	(8)	(9)	(10)
				(4)	(5)	(6)				
Greece	Yes		Practice under supervision on rotating services.	Yes		Yes		Yes, paid		
Hungary	Yes	Eleventh and twelfth semester of medical training	Training under supervision	Yes				No, sometimes gets board and room.	A student	Would like to extend by two semesters of medical training.
Iceland	Yes	One year	Rotation of experience under supervision		Yes		No	Yes, adequate	Hospital or superintendent of hospital responsible.	Yes
India	Yes in a few medical colleges.	Six months	Rotated experience under supervision	No	Yes	No	No	No	Under graduate student	No
Italy	Yes	Varies, usually six months			Yes		The examination of the State	No	Student	Frequently not enough supervision.
Luxembourg	Yes	One year for medical practice outside the country.	Rotated experience under supervision.		Yes		No	Board and room according to the practice of the	Student	foreign school.

## VIII Internship or Practice under Supervision (Continued)

44

	(1)	(2)	(3)	Is Internship Taken			(7)	(8)	(9)	(10)	
				(4)	(5)	(6)					
Nether-lands	Yes, consis- tant	Two and one- half years.	Examine and treat patient under super- vision.	No	No	No	The practi- cal exam- ination which gives license to practice.	No	None	Yes	
New Zealand	Yes, 99%	One year	House surgeon					Yes if he acts as a house surgeon in an emergency.	Student	Compul- sory	Required to have one post- graduate hos- pital year under provi- sional regis- tration for full registra- tion.
Norway	No, but expected soon.										
Spain	Yes, integrated with theory; no intern- ship as such.			Yes			Oral exam- ination over re- search program.	No	Student	Yes	It is proposed to put practi- cal assignment on remunerative basis.
Sweden	Yes	Varies, aver- age three and one-half months.		Yes				No	Student	Yes	It is proposed to put practi- cal assignment on remunerative basis

## VIII Internship or Practice under Supervision (Continued)

45

	(1)	(2)	(3)	Is internship taken			(7)	(8)	(9)	(10)
				(4)	(5)	(6)				
Switzerland	Yes	Six months	As an under- assistant.	Yes	No	No		No, generally gets board and room.	Not profes- sionally re- sponsible.	Yes
United States	No, six schools re- quire one year of in- ternship be- fore grant- ing the de- gree.			23 states and Dis- trict of Co- lumbia, Alaska, Hawaii, Porto Rico, Canal Zone.		25 states		75% paid small stipend of \$50 monthly or less	Most states do not re- quire intern license. A few require a certificate to practice within the hospital.	Yes

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Australia	No
Austria	Yes
Belgium	No
Bulgaria	Yes, on receiving the doctor's degree the students make a vow similar to the Hippocratic Oath.
Canada	Yes, most medical schools administer the Hippocratic Oath; one on entry to medicine, five on graduation and in one province on the award of a license to practice.
Chile	Yes, a very simple statement of loyalty to the profession taken before the university rector.
China	No
Cuba	Yes, the oath of Honor obligatory to all doctors. It is given by the National Medical College on enrollment of student.
Czechoslovakia	Yes, on graduation the student takes a very solemn declaration historically connected with the Oath of Hippocrates.
Denmark	Yes, after the final medical examination the student pledges himself to exercise his calling conscientiously. A modernized version of the Hippocratic Oath is used.
Eire	No
France	Yes, a modified version of the Hippocratic Oath is taken by the student before officials. Also the solemn oath of the World Medical Association.
Great Britain	Yes. Practice varies, some form of oath is taken but not the original Hippocratic Oath.
Greece	Yes, the Hippocratic Oath is taken by the candidate. Also when joining the medical association.
Hungary	Yes, as part of the graduation exercises the student gives a solemn pledge which is a modernized version of the Hippocratic Oath.
Iceland	Yes, the medical graduate signs a "Vow" which is a shortened modified version of the Hippocratic Oath. There is no ceremony.
India	No
Italy	No
Luxembourg	No
Netherlands	Yes, before receiving the license to practice the student swears to an Oath before the State-Committee that examines him. It is a shortened, modified version of the Hippocratic Oath.
New Zealand	No
Norway	Yes, a very short formal written promise is given.
Spain	Yes, on receiving the degree of doctor the student makes a solemn moral promise.
Sweden	No
Switzerland	Yes, diplomas are granted without ceremony. On receiving his license from the government officials the doctor takes or signs a promise. These vary widely in various Cantons.
United States	Yes, in most medical schools it is customary for the student at the time of graduation, to take the Oath of Hippocrates. The particular version of the Oath varies from school to school.

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## X Student Organization

	Is there a national organization of medical students? Give its objectives.	What organized relationships are there between:			Is closer contact desirable? How?
		National medical association and student organization?	National medical organization and medical students?	Local medical societies and local student groups?	
Australia	No	None	Senior student honorary association memberships in B.M.A. of Australia. Use library, attend meetings, get journal.	None	No
Austria	No	None	None	None	Yes, establish contact between local medical association and local student group.
Belgium	There is an organization at the university.		The official journal of the society is furnished to medical students.	The official journal of the societies is furnished to medical students.	Yes, official and voluntary universities be considered and that the precepts be presented in two languages (French and Netherlands).
Bulgaria	Yes, a section of the general student organization for medical students.	No	Financial aid given to medical students.	No	Yes, represent organized medicine to students and offering them aid from the doctors.
Canada	Canadian Association of Medical Students and Interns, Room 107, Anatomy Bldg., University of Toronto, Toronto, Ontario. Address changes annually with national executive from various schools. 1. Exchange of ideas. 2. Investigate common problems. 3. Preparation for national medical citizenship.	C.A.M.S.I. an affiliated society of C.M.A. Two delegates on Council of C.M.A. One delegate from C.M.A. on C.A.M.S.I. Council.	Official contact through Association. C.M.A. Journal to C.A.M.S.I. at reduced rate.	Encouraged but not well developed.	Satisfactory - close friendly and mutually beneficial.

	What organized relationships are there between:				
	(1)	(2)	(3)	(4)	
Chile	Only organizations in each university.		None	None	
China	No	None	None	None	No
Cuba	Association of students of medicine. Located at the University of Havana, School of Medicine.	Social character.	Social character.	None	Sufficient relations believed to exist at present.
Czecho-slovakia	In the process of re-organization.	Under development.	Under development.	Under development.	Not necessary.
Denmark	The Medical Students' Council in Copenhagen. Chairman, Stud. Med. Jorgen Fogh, Hattesens Alle 18, København F. The Medical Students' Council in Aarhus, Chairman, Stud. Med. Niels Tygstrup, Kollegium 2 Universitetsparken Aarhus. 1. Represent body to university. 2. Professional, social and other interests.	None	None	None	Probably should be contemplated.
Eire	Medical Students' Association of Eire.	This association has been officially recognized by the Irish Medical Association and works in very close association with the medical students' association of Great Britain.			Desirable.
France	General Association of Medical Students.		Friendly relations and all possible aid.		It is being developed.

	What organized relationships are there between:				(5)
	(1)	(2)	(3)	(4)	
Great Britain	British Medical Students' Association. 1. To provide opportunities for students to consult together. 2. To provide link between student and profession of interest to medical student. 3. To facilitate exchange of views between medical students and students of other faculties as well as with young people of other countries.	1. Secretarial assistance and meeting rooms. 2. Student member to special B.M.A. Committees.	Special Committee of B.M.A. deals with matters concerning medical students in their relation to B.M.A., encouraging interest and administering prizes for essays.	Newly qualified practitioners are entertained at receptions and lectures.	No, satisfactory.
Greece	Two or three organizations of students. They have a different objective.	Almost none.	Almost none.	Almost none.	Almost none.
Hungary	Association of Hungarian University and highschool students. Improve cultural and social standing of members.	Also members of national association.	Also members of national association.	Also members of national association.	Closer contact between students in university desirable.
Iceland	Medical students at University of Iceland have organization of own. No other in country.	Conclude agreements on terms for medical students being engaged as assistants to district medical officers.	None	None	No
India	None	None	None	Medical student attends medical conferences organized by I.M.A. at nominal fee, work together in medical relief work.	Yes, need national medical student association for social and scientific contacts, then tie can be established with I.M.A.

## X Student Organization (Continued)

50

	(1)	What organized relationships are there between:			(5)
		(2)	(3)	(4)	
Italy	Association of "Interfacultate" but not specially for medical students, neither local or national.	None	None	None	Would like exchange of students from different countries.
Luxembourg	No, no medical school.		The student organization.	No relationship.	Yes
Netherlands	No	No			No
New Zealand	Otago University medical students association to further their medical studies.	Nil	Nil	Nil	No
Norway	"Medisineforeningen" local society in Oslo, Peter Hjort. Ø. Sogsvet 4, Bestum pr. Oslo. Consider problems of teaching.				
Spain	Syndicate of Spanish Universities at Madrid, medical student have delegates to it. Protect student welfare and improved cultural standards.	Shared projects and social activities.	Shared projects and social activities.	Shared projects and social activities.	Yes, professional problems.



## X Student Organization (Continued)

	What organized relationships are there between:				(5)
	(1)	(2)	(3)	(4)	
Sweden	Local student bodies to organize medical students to serve best interest of medical science and increase spirit of comradeship.	The associations, student and medical, are affiliated with the Central Organization of Swedish Academicians.			
Switzerland	Yes, the Swiss Students of Medicine, Geneva. Safeguards the interests of medical students.	An official relationship. Students receive publications and address professional questions to association.	The General Secretariat of the S.M.A. is at the disposal of students.	No	Good to continue present contacts even if limited.
United States	Association of Interns and Medical Students, 7 East 42nd Street, New York, New York. Stimulate interest in improving medical education.	None	A.M.A. before war had student section in Journal, will return to it soon, also distribute booklets to medical students on ethics, economics and pharmaceutical preparations.	No general relationship.	Highly desirable, active plans under way to foster contact.